WHAT IS CLAIMED IS:

CLAIMS

1.   A method of transmitting data over a wireless channel comprising:
receiving convolutionally encoded data; and
5   enhancing the transmission of the data by further repetition encoding the data.

2.   A method of transmitting data over a wireless channel as recited in claim 1
wherein the data is repeated in the frequency domain.

3.   A method of transmitting data over a wireless channel as recited in claim 1
wherein the data is repeated in the time domain.

10   4.   A method of transmitting data over a wireless channel as recited in claim 2 further
including masking the data to reduce its peak to average ratio.

5.   A method of transmitting data over a wireless channel as recited in claim 1 further
including masking the data by applying a pseudorandom sequence.

6.   A method of transmitting data over a wireless channel as recited in claim 1
15   wherein the data is encoded using an IEEE 802.11a/g encoder.

7.   A method of transmitting data over a wireless channel as recited in claim 1
wherein the data is interleaved after repetition encoding whereby a need to pad the data
prior to interleaving is reduced.

8.   A method of receiving data over a wireless channel comprising:
20   receiving convolutionally encoded and repetition encoded data;
combining the repetition encoded data to produce combined data; and
decoding the combined data.

9.   A method of receiving data over a wireless channel as recited in claim 8 wherein the combined data is decoded using a Viterbi decoder.

10.   A method of receiving data over a wireless channel as recited in claim 8 wherein the repetition encoded data is repeated in the time domain.

5   11.   A method of receiving data over a wireless channel as recited in claim 8 wherein the repetition encoded data is repeated in the frequency domain.

12.   A method of receiving data over a wireless channel as recited in claim 8 wherein the received data is further encoded by a pseudorandom mask, further including removing the pseudorandom mask.

10   13.   A method of receiving data over a wireless channel as recited in claim 8 wherein the convolutional encoding conforms to the IEEE 802.11a/g standard convolutional encoding.

14.   A method of receiving data over a wireless channel as recited in claim 8 further including deinterleaving the data before combining the data.

15   15.   A method of receiving data over a wireless channel as recited in claim 8 wherein the repetition encoded data is repeated in the frequency domain on subchannels, and wherein combining the repetition encoded data to produce combined data includes compensating for the effect of each subchannel.

16.   A method of receiving data over a wireless channel as recited in claim 8 wherein
20   the repetition encoded data is repeated in the frequency domain on subchannels and wherein combining the repetition encoded data to produce combined data includes weighting data received on different subchannels according to the quality of the subchannels.

17.   A method of receiving data over a wireless channel as recited in claim 8 wherein
25   the repetition encoded data is repeated in the frequency domain on subchannels and

wherein an aggregate channel quality estimation is made for bits included in the combined data and wherein the aggregate channel quality estimation is used by the Viterbi to determine a maximum likely transmitted data sequence.

18.   A method of receiving data over a wireless channel as recited in claim 8 further including estimating a phase offset using the received repetition encoded data.

19.   A method of receiving data over a wireless channel as recited in claim 8 further including estimating a phase offset using the received repetition encoded data by making a hard decision and determining a hard decision corrected signal.

20.   A method of receiving data over a wireless channel as recited in claim 8 further including:

        estimating a phase offset using the received repetition encoded data by making a hard decision and determining a hard decision corrected signals; and

        filtering the estimated phase offset using a median filter.

21.   A system for encoding data for transmission over a wireless channel comprising:

        a convolutional encoder configured to convolutionally encode data; and

        a repetition encoder configured to enhance the transmission of the convolutionally encoded data by further repetition encoding the data.

22.   A system for encoding data as recited in claim 21 further including an interleaver.

23.   A system for encoding data as recited in claim 21 further including a masking processor configured to superimpose a pseudorandom mask on the repetition coded data.

24.   A system for receiving data over a wireless channel comprising:

        a receiver configured to receive convolutionally encoded and repetition encoded data;

        a data combiner configured to combine the repetition encoded data to produce combined data; and

        a decoder configured to decode the combined data.

25.   A system for receiving data as recited in claim 24 further including a deinterleaver configured to deinterleave the combined data.

26.   A system for receiving data as recited in claim 24 wherein the decoder is a Viterbi decoder.

5   27.   A system for receiving data as recited in claim 24 further including a mask remover.

A system for receiving data as recited in claim 24 further including a phase offset processor configured to determine a phase offset by making a hard decision and determining a hard decision corrected signals.

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